

# **Comments on Reserve Accumulation, Growth and Financial Crises**

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# Impression

- Enjoyed reading the paper
- Intuitive
- Excellent idea in modeling
- Nice description of the export oriented emerging economies with open capital markets (Korea)

# Summary of the paper

- Government collects non-distortionary tax to accumulate International Reserves (IR) during normal times and provide trade credit to export firms.
- An active International Reserve management can improve welfare (1%) through two channels.
  - (During normal times) Positive international knowledge spillovers in the tradable sector. Reserve accumulation leads to real depreciation, and resource reallocation towards tradable sector.
  - (During Crisis times) Possibility of sudden stop (imperfect substitutability between private and public capital flows). IR provide liquidity (trade credit for imported input in the export sector) when private credit is not available during crisis times.

# Understanding the reserve policy using BOP accounting

CA + FA (private capital inflows) =  $\Delta$  IR  
(normal times)

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(crisis times)—with no IR policy

(?)

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(~)

(crisis times)—with active IR policy

(?)

(~)

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# Response to Capital market liberalization

(From financial autarky to international borrowing with constraints)

$$CA + FA \text{ (private capital inflows)} = \Delta IR$$

With no IR policy

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With optimal IR policy (higher growth and welfare)

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# Policy implications

- Provide theoretical support for active foreign reserve accumulation policy
  - Support currency manipulation?  
(Maintain undervalued currency to achieve CA surplus and IR accumulation)

# Comments I

- Motivation of the paper is based on Figure 1
  - Cross-sectional evidence
    - Long-term positive relationship among high growth rate, CA surplus and reserve accumulation.
  - However, the paper is focused more on explaining cyclical properties of macro variables and capital flows (private and public).
  - Any time-series evidence?

# Comments II

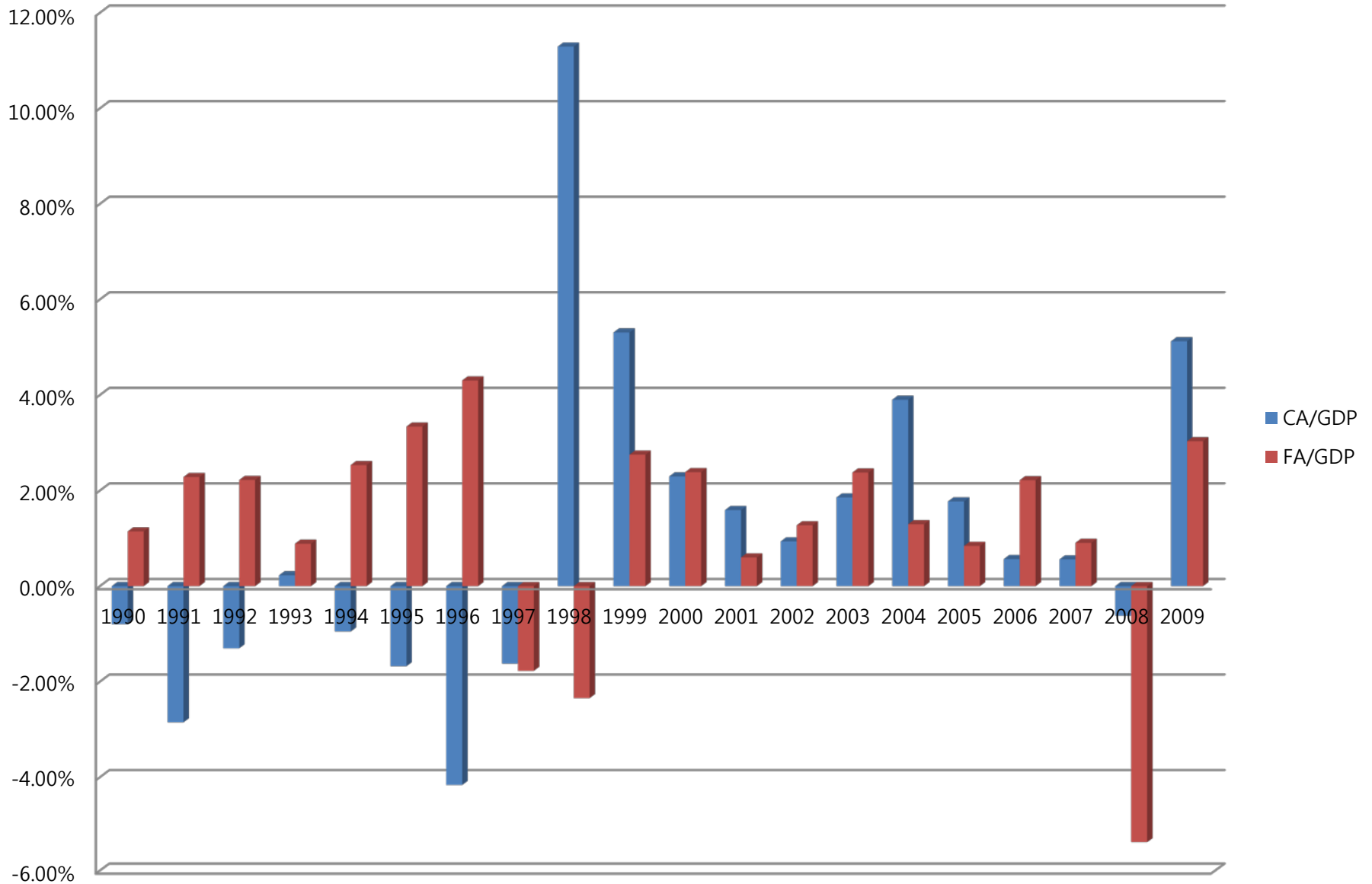
- Typical view: International Reserves are residuals from BOP accounting.
  - This paper: IR policy plays an active role in determining CA and private capital flows.
- Need more stories on CA?
- How can the following stories fit into the scenario in this paper?
  - Increase in imported intermediate good negatively contributes to CA, while increase in output positively contributes to CA
    - overall effects on CA?
  - High growing economies require investment at the initial stage, which negatively contributes to CA
    - No physical investment in this paper.



# Comments III

- This model well represents the export oriented small open economies with flexible exchange rates and open capital markets.
  - What about other types of emerging economies?
- In this regard, this model well explains Korea after 97 crisis (during normal times)
  - but not the 2008 crisis or before 97 crisis

# Korea's current account and financial account



# Explaining Korean data in 2008 (crisis period)

CA + FA (private capital inflows) =  $\Delta$  IR  
(crisis times)—Model with active IR policy

(?)

(~)



(crisis times)—Data in 2008



# Explaining Korean data before 1997

$$CA + FA \text{ (private capital inflows)} = \Delta IR$$

(normal times)—Model

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(normal times)—Data in 1999-2007

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(normal times)—Data before 1997

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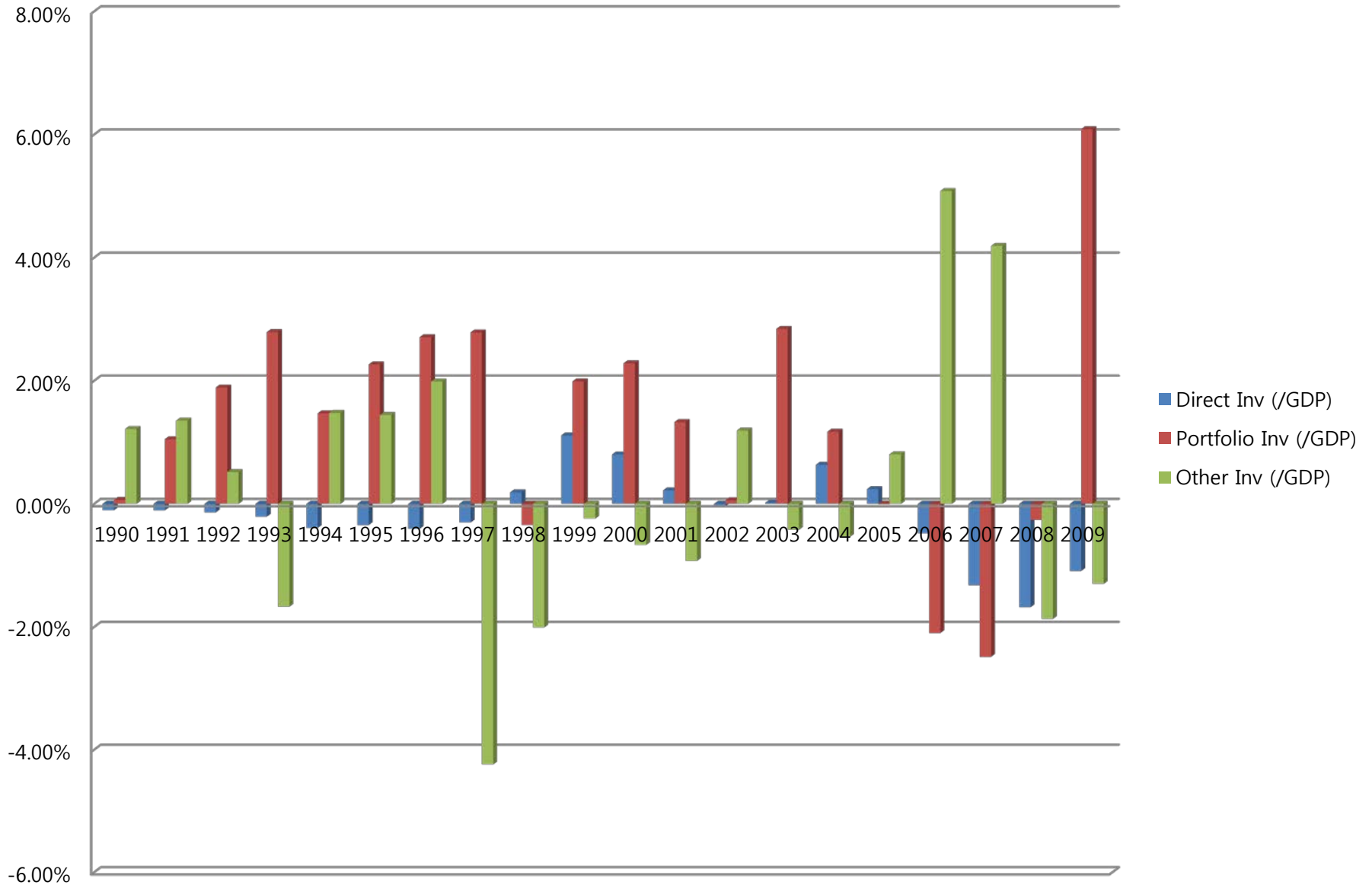
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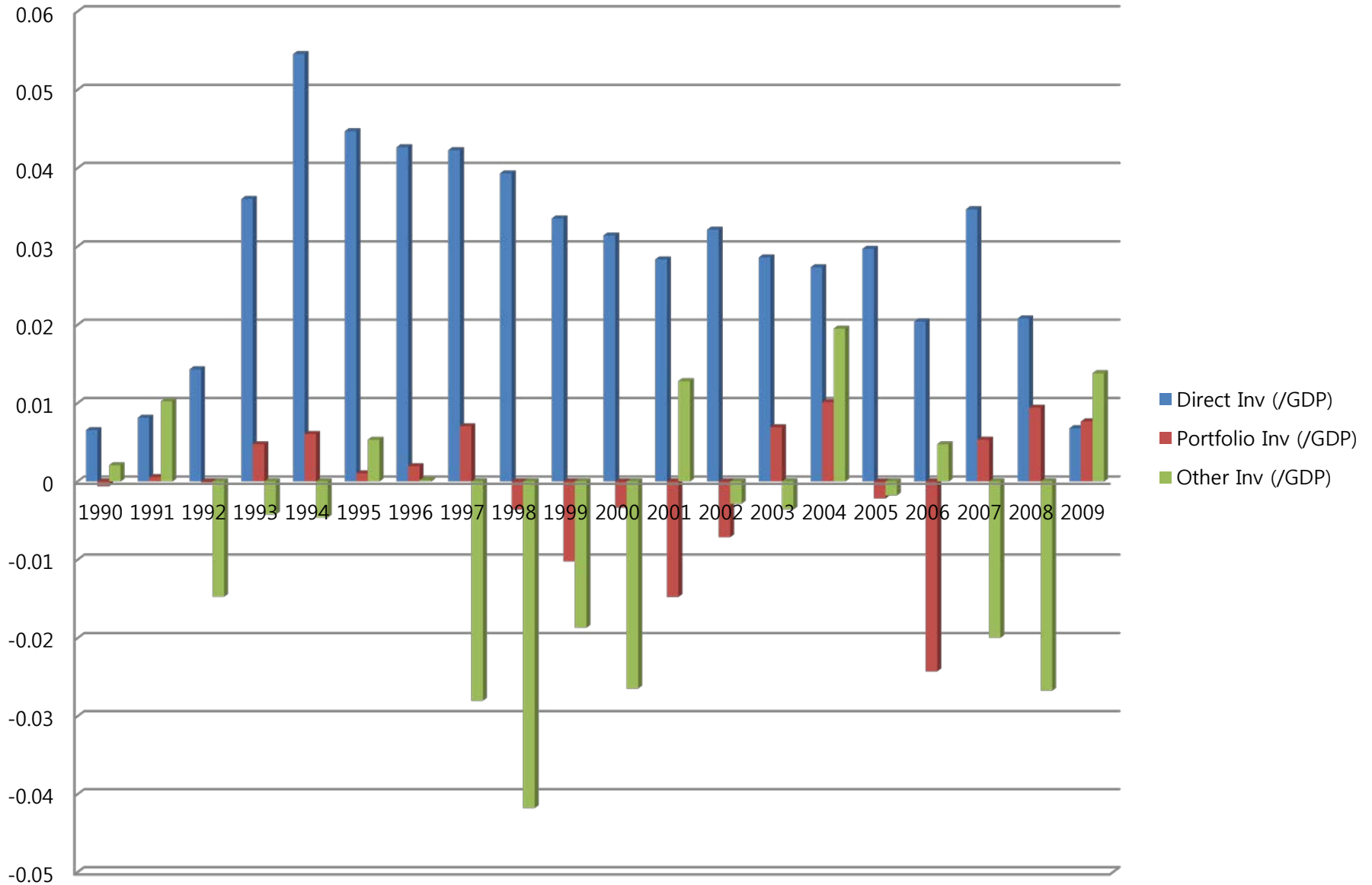
# Comments IV

- Main channel that IR policy can affect CA and growth
  - Through imported intermediate import good for producing export goods.
- Composition of capital flows
  - Portfolio vs. other investment (trade credit)

# Composition of financial account (Korea)



## Composition of financial account (China)



# Other Comments I

- Welfare gains from optimal IR policy are mostly coming from an increase in consumption in later periods
  - During the initial periods followed by capital market liberalization, consumption decreases, which may reduce welfare.
- Model: Sudden stop affects the economy through trade credit for imported input in the tradable sector.
  - Missing: sudden stop can affect Bond/equity trading and bank lending and borrowing.



# Other Comments II

- In the paper, only export firms can do international borrowing: Can we allow households to borrow?
- Exogenous probability of sudden stop: If a country has enough FR, probability of sudden stop may decrease (i.e. China).
- Potential negative effects of IR accumulation: inflation.
- $R(FX)$ ,  $R$ ,  $PM$  are exogenous. Do they respond to IR policy or sudden stop in reality?
- Extension: Knowledge spillovers through foreign direct investment